BEFORE THE PUBLIC UTILTIIES COMMISSION

OF THE STATE OF HAWAII

---- In the Matter of ----)
)
PUBLIC UTILITIES COMMISSION) DOCKET NO. 2014-0192
)
Instituting a Proceeding)
to Investigate Distributed)
Energy Resource Policies.)
)

ORDER NO. 33923

INSTRUCTING THE HAWAIIAN ELECTRIC COMPANIES TO SUBMIT TARIFFS FOR AN INTERIM TIME-OF-USE PROGRAM

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INSTRUCTING THE HAWAIIAN ELECTRIC COMPANIES TO SUBMIT TARIFFS FOR AN INTERIM TIME-OF-USE PROGRAM

By this Order ("Order"),[1] the Public Utilities Commission ("commission") instructs each of the HECO Companies[2] to file in

[1]The Parties to this proceeding are HAWAIIAN ELECTRIC COMPANY, INC. ("HECO"), HAWAII ELECTRIC LIGHT COMPANY, INC. ("HELCO"), MAUI ELECTRIC COMPANY, LIMITED ("MECO"), KAUAI ISLAND UTILITY COOPERATIVE ("KIUC"), and the DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, DIVISION OF CONSUMER ADVOCACY (the "Consumer Advocate"), an ex officio party, pursuant to Hawaii Revised Statutes ("HRS") § 269-51 and Hawaii Administrative Rules ("HAR") § 6-61-62(a). Additionally, the commission has granted intervenor status to the DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, AND TOURISM ("DBEDT"), HAWAII SOLAR ENERGY ASSOCATION ("HSEA"), RENEWABLE ENERGY ACTION COALITION OF HAWAII ("REACH"), HAWAII RENEWABLE ENERGY ALLIANCE ("HREA"), HAWAII PV COALITION ("HPVC"), BLUE PLANET FOUNDATION ("Blue Planet"), THE ALLIANCE FOR SOLAR CHOICE ("TASC"), SUNPOWER CORPORATION ("SunPower"), LIFE OF THE LAND ("LOL"), and RON HOOSON ("Mr. Hooson").

[2]The "HECO Companies" or "Companies" refers collectively to HECO, HELCO, and MECO.

this docket, within thirty days of this Order, a tariff for an interim time-of-use ("TOU") program, as further described herein.

I.

RELEVANT PROCEDURAL HISTORY

On August 21, 2014, the commission issued Order No. 32269, which opened this proceeding to investigate the technical, economic, and policy issues associated with distributed energy resources ("DER") as they pertain to Hawaii's electric utilities (HECO, HELCO, MECO, and KIUC).[3]

Subsequently, on March 31, 2015, the commission issued Order No. 32737, which, in relevant part, divided the proceeding into phases based on near- and long-term objectives.[4] The commission provided a statement of issues which would guide Phase I of the proceeding. Phase I focused primarily on addressing the interconnection challenges facing the HECO Companies' customers and modifying DER programs to encourage the development

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[3]See Order No. 32269, "Instituting a Proceeding to Investigate Distributed Energy Resource Policies," filed August 21, 2014 ("Order No. 32269").

[4]See Order No. 32737, "Granting Motions to Intervene, Consolidating and Incorporating Related Dockets, and Establishing Statement of Issues and Procedural Schedule," filed March 31, 2015 ("Order No. 32737"), at 33.

of new DER market choices.[5] By Order No. 32737, the commission also granted intervenor status to HSEA, LOL, REACH, HREA, HPVC, TASC, SunPower, DBEDT, Blue Planet, and Mr. Hooson. As part of the procedural schedule, the Parties participated in bi-weekly technical conferences, as well as filed comments and position statements on the statement of issues.

On October 12, 2015, the commission issued Decision and Order No. 33258 which, among other things, approved revised interconnection standards to be applied by the HECO Companies, grandfathered existing net energy metering ("NEM") customers and closed the HECO Companies' NEM program to new participants, and approved two interim programs for customers to interconnect DER into the HECO Companies' electric grids: the customer self-supply ("CSS") option and the customer grid-supply ("CGS") option.[6] In doing so, the commission resolved many of the Phase I issues established in Order No. 32737.[7]

As part of Phase I, the commission examined the issue of whether new tariffs should be developed to create new DER market

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[5]See Order No. 32737 at 36-38 for a complete list of the Phase I issues.

[6]See Decision and Order No. 33258, filed October 12, 2015 ("Decision and Order No. 33258").

[7]See Decision and Order No. 33258 at 61-165 for the commission's findings and conclusions regarding the Phase I issues.

choices. This included the CSS and CGS tariffs that were approved pursuant to Decision and Order No. 33258. Some Parties also expressed support for a TOU tariff to provide DER customers with more effective pricing signals to drive efficient electricity consumption and production decisions.[8] However, the commission found that none of the TOU proposals presented by the Parties could be approved as submitted.[9]

As a result, the commission provided guidelines for a revised TOU tariff design and instructed the HECO Companies to re-file a new TOU tariff option. The commission instructed the HECO Companies to utilize three time periods, corresponding to the system peak, the mid-day period (when solar PV and other renewable generation is typically abundant), and an off-peak period. In addition, the commission stated that:[10]

> 1) The mid-day period rate should be set at the expected 2017 average hourly marginal cost for those hours;
>
> 2) All fixed generation, transmission, and distribution costs should be allocated to the peak period to provide a strong price signal, and;
>
> 3) The off-peak period rate should be based on system costs but should be set such that the TOU rate design is revenue neutral for the average residential customer load profile.

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[8]See Decision and Order No. 33258 at 147.

[9]Decision and Order No. 33258 at 150.

[10]See Decision and Order No. 33258 at 150-153.

The commission purposefully provided broad guidance to the HECO Companies to allow the HECO Companies the flexibility to propose the details of the TOU rate structure and the resulting rates, based on the most recent system cost data available to the Companies. The commission also encouraged the Parties to comment on the HECO Companies' revised TOU tariff proposal.[11]

Contemporaneously with the issuance of Decision and Order No. 33258 in the instant docket, the commission issued Order No. 33279 in Docket No. 2015-0342, in which the HECO Companies sought commission approval of their tariff for new electric vehicle ("EV") rates.[12] The commission noted that

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[11]Decision and Order No. 33258 at 153.

[12]See Order No. 33279, "Closing the Docket," filed in Docket No. 2015-0342 on October 23, 2015 ("Order No. 33279"). In its filing in Docket No. 2015-0342, the HECO Companies state that they currently offer the following TOU schedules for EVs: (1) Schedule EV-R (Residential Electric Vehicle Charging Service; (2) Schedule TOU EV (Residential Time-of-Use Service with Electric Vehicle); and (3) Schedule EV-C (Commercial Electric Vehicle Charging Services. See, "Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc., and Maui Electric Company, Limited's Transmittal; Verification; Exhibits 'A'-'C'; and Certificate of Service," filed July 31, 2015, in Docket No. 2015-0342. As the Interim TOU Program approved herein only applies to residential customers, this Order does not apply to Schedule EV-C; furthermore, as noted by the HECO Companies, Schedule EV-C has apparently been terminated as of October 1, 2015, due to lack of customer interest. Id. at 2, n.1. Accordingly, this Order deals exclusively with the residential EV-TOU Schedules, and shall refer to the residential EV schedules, Schedule EV-R and Schedule TOU-EV, collectively as the "current EV-TOU Schedules." That being said, the issue of a commercial EV-TOU schedule may be re-visited during Phase II.

pursuant to Decision and Order No. 33258, the HECO Companies would be filing an electric vehicle time-of-use ("EV-TOU") tariff schedule.[13] Accordingly, the commission found that the review and adjudication of the HECO Companies' proposed EV-TOU tariff would be undertaken in this docket, Docket No. 2014-0192, thus rendering the transmittal in Docket No. 2015-0342 moot.[14]

On November 12, 2015, the HECO Companies submitted their revised TOU proposal.[15] On November 23, 2015, several Parties filed comments regarding the Proposal.[16]

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[13]Order No. 33279 at 3 (citing Decision and Order No. 33258 at 150).

[14]Order No. 33279 at 3.

[15]"Letter From: D. Brown To: Commission Re: 2014-0192 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies; Proposed Time-or-Use Rates and Tariff Sheets," filed November 12, 2015 ("HECO Companies TOU Tariff Proposal" or "the Proposal").

[16]See "Division of Consumer Advocacy's Initial Comments," filed November 23, 2015 ("CA Comments"); "Renewable Energy Action Coalition of Hawaii, Inc.'s Comments on the Proposed TOU Rate Option; and Certificate of Service," filed November 23, 2015 ("REACH Comments"); "Comments of the Department of Business, Economic Development, and Tourism on the Hawaiian Electric Companies' Refiled Time-of-Use (TOU) and Electric Vehicle Tariff Proposals; and Certificate of Service," filed November 23, 2015 ("DBEDT Comments"); "Hawaii Solar Energy Association's, Hawaii Renewable Energy Alliance's, Ron Hooson's, Life of the Land's, and The Alliance for Solar Choice's Comments on the Hawaiian Electric Companies' Proposed Time-of-Use Rates and Tariff Sheet," filed November 23, 2015 ("Joint Parties Comments"); "The Hawaii PV Coalition's Comments and Joinder to the Hawaii Solar Energy Association's, Hawaii Renewable Energy Alliance's, Ron Hooson's, Life of the Land's and The Alliance for Solar Choice's [sic] on the Hawaiian Electric Companies' Proposed Time-of-Use Rates and Tariff Sheets; and Certificate of Service,"

On December 8, 2015, the commission issued Order No. 33383, inviting reply comments to the Proposal, to be filed by December 16, 2015.[17] Several Parties took advantage of this opportunity and filed reply comments.[18] Additionally, the HECO Companies filed their own reply comments on December 16, 2015.[19]

Thereafter, on February 26, 2016, and March 31, 2016, the commission issued information requests PUC-HECO-IR-16 through

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filed November 23, 2015 ("HPVC Comments"); and "Blue Planet Foundation's Joinder to Joint Parties' Comments on the Hawaiian Electric Companies' Proposed Time-of-Use Rates and Tariff Sheets; and Certificate of Service," filed November 23, 2015 ("Blue Planet Joinder").

[17]See "Order No. 33383, Order Inviting Reply Comments on the HECO Companies' Re-Filed Time of Use Tariff Proposal," filed December 8, 2015 ("Order No. 33383").

[18]See "Division of Consumer Advocacy's Reply Comments; and Certificate of Service" ("CA Reply"); "SunPower Corporation's Reply Comments to the Hawaiian Electric Companies' Re-Filed Time-of-Use Tariff Proposal; and Certificate of Service" ("SunPower Reply"); and "Hawaii Solar Energy Association's, Blue Planet Foundation's, Hawaii PV Coalition's, Hawaii Renewable Energy Alliance's, Life of the Land's, Ron Hooson, and The Alliance for Solar Choice's Reply Comments on the Hawaiian Electric Companies' Proposed Time-of-Use Rates and Tariff Sheet; and Certificate of Service" ("Joint Parties Reply"), all filed December 16, 2015.

[19]See "Hawaiian Electric Companies' Reply Comments in Support of Time-of-Use Tariff Proposals; Exhibit 1; and Certificate of Service," filed December 16, 2015 ("HECO Companies Reply").

PUC-HECO-IR-20 to the HECO Companies concerning modifications to the proposed TOU rate designs and the cost-allocation methods.[20]

In particular, PUC-HECO-IR-16 through -19 instructed the HECO Companies to: (1) update their supporting TOU rate calculations to show the effective TOU rate reflecting applicable March 2016 surcharges; (2) provide alternative TOU rate calculations using different TOU periods (5pm-10pm on-peak, 10pm-9am off-peak, and 9am-5pm mid-day); (3) modify the TOU rate calculations so that the fixed generation, transmission, and distribution costs are allocated over both the on-peak and off-peak periods (rather than allocated solely to the on-peak time period); and (4) compare the estimated 2017 marginal generation costs (used to calculate the TOU rates) with the HECO Companies' monthly on-peak and off-peak avoided costs.[21] The HECO Companies timely responded to PUC-HECO-IR-16 through PUC-HECO-IR-19 on March 4, 2016.[22]

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[20]See "Letter From: Commission To: J. Viola Re: Docket No. 2014-0192, Instituting a Proceeding to Investigate Distributed Energy Resource Policies, Information Requests," filed February 26, 2016 ("PUC February 2016 IRs"); and "Letter From: Commission To: J. Viola Re: Docket No. 2014-0192 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies, Information Requests," filed March 31, 2016 ("PUC March 2016 IRs").

[21]See PUC February 2016 IRs.

[22]See "Letter From: D. Brown To: Commission Re: Docket No. 2014-0192 - Instituting a Proceeding to Investigate Distributed Energy Resource Planning; Companies' Reponses to Commission Information Requests," filed March 4, 2016.

PUC-HECO-IR-20, issued on March 31, 2016, requested two alternative methodologies for calculating effective mid-day rates: (1) a "fixed mid-day rate," which would fix the effective mid-day rate to equal the projected 2017 mid-day marginal cost (i.e., the mid-day rate would not vary month-to-month); and (2) an "adjustable mid-day rate," which would set the effective mid-day rate to equal the projected 2017 mid-day marginal cost, but would allow the mid-day rate to vary monthly based on relative changes in applicable surcharges and adjustments.[23] The HECO Companies timely responded to PUC-HECO-IR-20 on April 7, 2016.[24]

II.

PARTIES AND POSITIONS

A.

The HECO Companies

1.

The Proposed Interim TOU Program Design

Based on the guidance provided by the commission in Decision and Order No. 33258, the HECO Companies submitted the

[23] See PUC March 2016 IRs.

[24] See "Letter from D. Brown To: Commission Re: Docket No. 2014-0192 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies; Companies' Response to Commission Information Request," filed April 7, 2016.

Proposal on November 12, 2015, which contains the following concepts: (1) an "opt-in" TOU tariff for residential customers; (2) interim TOU rates that are the same as customer charges under the existing Schedule TOU-R;[25] (3) interim TOU minimum charges that will be the same as the minimum charges under the existing Schedule TOU-R; (4) three TOU period energy charges (peak period, mid-day period, and off-peak period), with the mid-day period intended to have the lowest energy charge rate and the peak period rate to be the highest energy charge rate;[26] (5) that all kilowatt-hour ("kWh") in the same TOU period will be charged at the same rate; (6) that the interim TOU rate will be subject to the same surcharges as the current Schedule R residential rate[27] (e.g., energy cost adjustment charge, power purchase agreement charge, revenue balance account rate adjustment charge, public benefits fund surcharge, Green Infrastructure fee, etc.); and (7) that the interim TOU rates will be re-computed annually.[28]

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[25]"Schedule TOU-R" is the HECO Companies' existing time-of-use tariff currently available for residential customers.

[26]Specifically, the HECO Companies proposed the following TOU periods: (1) a mid-day period of 9am-4pm; (2) an on-peak period of 4pm-midnight; and (3) an off-peak period of midnight-9am. HECO Companies TOU Tariff Proposal at 5.

[27]"Schedule R" refers to the rate schedule applied to the HECO Companies' residential customers of.

[28]HECO Companies TOU Tariff Proposal at 3-4.

In this regard, the HECO Companies stated that they planned to propose a revised TOU tariff in Phase II of these proceedings.[29]

The HECO Companies used the estimated 2017 average marginal generation costs for the respective TOU periods as the basis for the energy rates for each TOU period, which were then adjusted to account for the base fuel energy charge rate for each period.[30] Additionally, all fixed costs for generation, transmission, and distribution are assigned to the on-peak kWh energy charge only (i.e., they are not distributed evenly over all three TOU periods).[31] The HECO Companies initially proposed interim TOU rates as follows:[32]

The HECO Companies' Proposed Time-of Use Energy Charges (cents/kWh)			
	Mid-Day 9 a.m. - 4 p.m.	On-Peak 4 p.m. - 12 a.m.	Off-Peak 12 a.m. - 9 a.m.
HECO	11.0413	36.1997	13.6755
HELCO	15.7148	46.3867	17.8685
MECO	23.8116	45.7002	26.8383
MECO (Lanai Division)	36.6396	52.3616	35.7913
MECO (Molokai Division	29.6434	52.8520	29.6548

[29]HECO Companies TOU Tariff Proposal at 4.

[30]HECO Companies TOU Tariff Proposal at 6.

[31]HECO Companies TOU Tariff Proposal at 6.

[32]HECO Companies TOU Tariff Proposal, Exhibit 1, at 1 of 37.

The HECO Companies state that this rate structure is designed to incentivize customers to shift electricity usage to the mid-day hours. In this respect, ending the on-peak period at midnight is intended to further encourage load shifting from the on-peak period to the mid-day period.[33] The TOU periods themselves are designed in response to net system load and solar irradiance, with the on-peak period serving primarily as a "peak shaving" incentive.[34]

The HECO Companies suggest closing the Schedule TOU-R and providing existing Schedule TOU-R customers with ninety days to choose an available applicable rate schedule.[35]

2.

The Proposed Electric Vehicle ("EV") TOU Tariff

Pursuant to Order No. 33279, the HECO Companies also proposed a new EV-TOU tariff containing the following characteristics: (1) three energy charge periods (peak period, mid-day period, and off-peak period);[36] (2) the mid-day period

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[33]HECO Companies TOU Tariff Proposal at 5.

[34]HECO Companies TOU Tariff Proposal at 6.

[35]HECO Companies TOU Tariff Proposal at 8.

[36]Specifically, the proposed EV-TOU periods are, mid-day (9am-3pm), on-peak (3pm-9pm), and off-peak (9pm-9am). These periods are different than the proposed Interim TOU Program rates, primarily in that they offer a shorter on-peak period and a longer off-peak period. According to the HECO Companies,

rate, which will be set at the marginal cost of generation for those hours; (3) the peak period rate, which will be computed by combining fixed generation, transmission, and distribution costs; (4) the off-peak rate, which will be computed according to marginal generation costs, but adjusted so that the overall revenue requirement impact is neutral; (5) rates shall be established by using projected marginal generation costs in 2017; (6) every component of the EV-TOU rate design, except the mid-day rate, will adjust with changes to the underlying system cost; and (7) the EV-TOU rates will be recomputed annually.[37]

The HECO Companies propose establishing two sets of EV-TOU rates: 1) a residential "whole house" TOU rate where all energy usage, including EV charging, is measured on a single meter; and (2) a separate meter rate applicable only for charging of batteries of on-road electric vehicles.[38] Each EV-TOU rate will include a TOU metering charge ($1.50/month for residential

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the purpose of the longer off-peak period is to account for the fact that in many cases, both residential and commercial use of EVs is limited to daylight and early evening hours. HECO Companies TOU Tariff Proposal at 10.

[37]HECO Companies TOU Tariff Proposal at 9. As noted above, this proposed EV-TOU tariff would supersede the current EV Schedules established in Docket No. 2015-0342. See id. at 8-9; see also, Decision and Order No. 33165, filed September 25, 2015, in Docket No. 2015-0342 (extending the current EV Schedules beyond their October 1, 2015, sunset date).

[38]HECO Companies Proposed TOU Tariff at 9.

customers and $5.00/month for commercial customers, which reflect the existing Schedule EV-R and Schedule EV-C charges).[39] Also, similar to the proposed Interim TOU Program, the proposed EV-TOU tariff assigned all the fixed costs of generation, transmission, and distribution to the on-peak energy charge.[40]

B.

The Consumer Advocate

The Consumer Advocate cautions that "great care needs to be taken in establishing TOU rates to not only provide appropriate price signals to customers that will incentivize efficient investments[,] but will also provide system benefits that will not result in cross-subsidization by non-participating customers."[41] At this stage in the proceeding, the Consumer Advocate contends that there are a number of challenges which increase the difficulty of determining appropriate TOU rates, such as the limited information currently available regarding customer behavior, the need for expedited review of the TOU tariff, and the

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[39]HECO Companies Proposed TOU Tariff at 10.

[40]HECO Companies Proposed TOU Tariff at 11.

[41]CA Comments at 2.

inefficient TOU pricing that currently exists, which may not reflect efficient consumer and producer behavior.[42]

Accordingly, until more information can be gathered in Phase II of this proceeding, the Consumer Advocate recommends that the Interim TOU Program contain the following terms and conditions: (1) enrollment limited to NEM and Grid-Supply customers; (2) a finite lifespan, with the TOU rates to extend no longer than two years and with no "grandfathering" allowed; and (3) a prohibition on allowing TOU rates to compensate customers for exports to the grid.[43] Additionally, in response to Blue Planet's suggestion to consolidate the existing Schedule TOU-R into the Interim TOU Program, the Consumer Advocate states that if such a plan is approved, Schedule TOU-R participants should be required to "opt in" to the Program, rather than be automatically included in the new program.[44] This is consistent with the Consumer Advocate's position that enrollment in the Interim TOU Program should be limited until the costs of providing electricity at various times throughout the day and potential benefits of the rate design are better understood.[45]

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[42]CA Comments at 2.

[43]CA Comments at 2-3.

[44]CA Reply at 8-9.

[45]See CA Comments at 9.

Regarding the HECO Companies' proposed EV-TOU tariff, the Consumer Advocate supports the proposed tariff because its rates better reflect current system load conditions.[46] However, the Consumer Advocate continues to express concern over the impact such rates will have on non-participating customers, and recommends that the commission require the HECO Companies to meet a variety of reporting and tracking commitments.[47]

C.

The Department of Business, Economic Development, and Tourism ("DBEDT")

DBEDT focuses its comments around the issues of price signals, customer adoption, and sustainability.[48] DBEDT states that the TOU rates should provide appropriate economic incentives for customers to shift demand while reducing overall system costs.[49] To that end, DBEDT raises a number of issues that may arise between the proposed Interim TOU Program and other existing tariffs, particularly the NEM, CGS, and CSS tariffs. While DBEDT states that qualified NEM customers should be able to participate in the Interim TOU Program, DBEDT opposes applying full retail net

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[46] CA Comments at 18.

[47] CA Comments at 19-20.

[48] See DBEDT Comments at 1.

[49] DBEDT Comments at 1.

energy metering to the proposed interim TOU rates, as it distorts collection of fixed system costs and may interfere with the on-going planning in the Power Supply Improvement Plan ("PSIP") docket.[50] DBEDT expresses similar concerns regarding interaction with the CGS and CSS tariffs, noting that the economic incentives provided by those tariffs may interfere with the customer behavior changes the Interim TOU Program is intended to produce.[51]

DBEDT also notes that customers may be reluctant to opt-in to a TOU tariff and recommends several measures to provide incentives, such as offering bill protection for up to one year.[52] Additionally, DBEDT recommends that the HECO Companies engage in education and outreach programs with customers.[53] DBEDT also states that the interim TOU time periods should be aligned across TOU tariffs to mitigate customer confusion about when different TOU rates are applicable (that is, avoiding multiple different time periods for different TOU tariff options).[54]

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[50]DBEDT Comments at 2-4. The PSIP is the subject of Docket No. 2014-0183.

[51]See DBEDT Comments at 4-5.

[52]DBEDT Comments at 6-7. Bill protection would allow a customer to opt-in to the Interim TOU Program with the guarantee that his or her monthly bill would be no higher than if he or she had remained on the conventional tariff rate. Id.

[53]DBEDT Comments at 7.

[54]See DBEDT Comments at 7-8.

Finally, DBEDT states that the interim TOU rate design should be sustainable, in that it equitably distributes the costs of the program.[55] DBEDT recommends that the fixed costs of generation, transmission, and distribution should be spread among all the TOU time periods, not just the on-peak period.[56] Furthermore, DBEDT suggests implementing public benefits surcharges for all interim TOU periods, as well as implementing place holders in the rate design to provide cost recovery for grid services provided by customers.[57]

D.

The Joint Parties

The Joint Parties recommend several modifications to the HECO Companies' Proposal, including: (1) the credit for exported energy (if applicable) should match the TOU rate; and (2) the TOU periods should be consistent across programs that use time-varying rates, with the period prescribed in the HECO Companies' proposed EV-TOU tariff being ideal.[58]

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[55]See DBEDT Comments at 8-9.

[56]See DBEDT Comments at 8-9.

[57]DBEDT Comments at 9-10.

[58]Joint Parties Comments at 3. As discussed, supra, the EV-TOU periods are 9am-3pm (mid-day), 3pm-9pm (peak), and 9pm-9am (off-peak).

The Joint Parties state that "properly designed TOU rates should encourage DER customers to deploy energy storage systems or west-facing PV system orientations that shift energy exports into on-peak and ramping periods[.]"[59] To that end, the Joint Parties maintain that matching the rate for exported energy with the interim TOU rate will send the appropriate price signals to customers who own or are planning to invest in DER.[60] The Joint Parties submit that a TOU program that only offers incentives through self-consumption will not be successful; rather, a successful TOU program must incentivize customers to both offset load through self-consumption as well as encourage energy production during on-peak and ramping periods.[61] According to the Joint Parties, matching the rate for exported energy to the TOU rate is a simple and efficient way in which to accomplish this.[62]

The Joint Parties also take issue with the HECO Companies' pricing methodology for the interim TOU tariff rates. The Joint Parties argue that under the proposed interim TOU rates, there is a perverse incentive to increase energy exports

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[59]Joint Parties Comments at 4.

[60]Joint Parties Comments at 4.

[61]See Joint Parties Comments at 4-5.

[62]See Joint Parties Comments at 5-6.

during the mid-day period, which runs counter to one of the goals of a TOU program.[63] The Joint Parties point to the difference between the proposed TOU rates and the export rate under the CGS tariff: because the proposed mid-day TOU rate is lower than the CGS export rate, there is an economic incentive to export any self-generated electricity during the mid-day, rather than self-consuming it to meet on-site loads.[64] The Joint Parties cite this issue as another reason in favor of adopting a standard TOU rate for all customer grid interactions (both consumption and exports).[65]

The Joint Parties also state that the HECO Companies' proposed interim TOU tariff time periods do not appropriately reflect system needs or incentivize customer behavior. The Joint Parties advocate a "9a-3p-9p" time period structure (9am-3pm, 3pm-9pm, and 9pm-9am).[66] The Joint Parties state that

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[63]See Joint Parties Comments at 7.

[64]Joint Parties Comments at 7. The HECO Companies dispute this assertion in their Reply, arguing that while there is a potential to arbitrage the difference in TOU rates and CGS rates, the economic benefit is fairly small and unlikely to incentivize behavior change (essentially, even if customers shifted their discretionary consumption to the off-peak period, to permit maximum export during the mid-day period, they would only realize a benefit of $0.014 cents/kWh). See HECO Companies Reply at 4.

[65]Joint Parties Comments at 7.

[66]Joint Parties Comments at 8. As noted, supra, this is the same time period proposed in the HECO Companies' EV-TOU tariff.

such a time period structure: (1) better accommodates mid-day primary solar production; (2) includes more of the challenging ramp-up hours in the peak period; and (3) avoids skewing the peak period to include a large number of hours when load is rapidly declining (i.e., hours after 9pm).[67] In this regard, the Joint Parties contend that extending the peak period from 4pm to midnight (as proposed by the HECO Companies) will not offer customers a meaningful opportunity to benefit from TOU rates, as this excludes late evening/late night hours from the off-peak period.[68]

The Joint Parties also note that the HECO Companies have currently proposed three different TOU tariffs. The Joint Parties recommend aligning the TOU periods across all three tariffs so as to mitigate customer confusion and promote education and adoption of TOU rates.[69]

Finally, the Joint Parties submit that NEM customers should be allowed to opt-in to any approved Interim TOU Program.[70]

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[67]Joint Parties Comments at 8-9.

[68]See Joint Parties Comments at 11-12.

[69]See Joint Parties Comments at 10. In addition to the HECO Companies' residential interim TOU tariff, the HECO Companies have also proposed a new EV-TOU tariff, discussed above, and a separate TOU tariff for the Department of Education, State of Hawaii ("DOE"). The DOE-TOU tariff is currently the subject of Docket No. 2015-0410.

[70]Joint Parties Comments at 15.

Furthermore, NEM customers who opt-in should be exempted from the requirement that NEM customers abandon the NEM program in order to modify their systems.[71]

1.

Joinders to the Joint Parties' Comments

HPVC and Blue Planet both filed Joinders to the Joint Parties Comments, although each offered a few individual comments. HPVC discusses the importance of encouraging DER customer exports during peak periods and concludes that a restriction on participation in a TOU program sends the wrong message and invites failure.[72] According to HPVC, without appropriate compensation for customer exports, there will be insufficient incentives to make the investments in battery technology that could benefit the overall system.[73] HPVC also advocates for a higher peak period price, shorter peak period, and an interim program cap of 100 megawatts ("MW").[74]

Blue Planet's comments are focused on removing barriers to customer participation in the TOU program. Blue Planet

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[71]Joint Parties Comments at 15; see also, Order No. 33258 at 164-65.

[72]HPVC Comments at 1-2.

[73]HPVC Comments at 1-2.

[74]HPVC Comments at 3-4.

recommends automatically enrolling customers in the existing Schedule TOU-R into the proposed Interim TOU Program, without requiring them to affirmatively "opt-in."[75] Additionally, Blue Planet takes issue with a condition which allows the HECO Companies to delay customer participation in the Interim TOU Program for up to three months while the utility performs baseline monitoring.[76] Finally, Blue Planet states that the HECO Companies should be required to develop a robust marketing and enrollment plan to educate customers about the Interim TOU program.[77]

E.

Renewable Energy Action Coalition of Hawaii, Inc. ("REACH")

After reviewing the HECO Companies' Proposal, REACH states that it "seems to be fairly calculated, and appears to comply with the requirements set forth in D&O 33258."[78] However, REACH suggests a cyclical planning process of identifying and evaluating options, review, and revision, to ensure that the proposed interim TOU tariff actually "provides the greatest benefits at the lowest costs without impairing electric system

[75]Blue Planet Comments at 2.

[76]Blue Planet Comments at 2.

[77]Blue Planet Comments at 3.

[78]REACH Comments at 3.

performance[.]"[79] REACH advocates public disclosure of this process to allow meaningful contributions by participants.[80] REACH suggests considering such a planning process as part of Phase II of this docket.[81]

F.

SunPower Corporation ("SunPower")

SunPower's comments primarily focus on promoting customer participation in the Interim TOU Program. In particular, SunPower recommends allowing customers to enroll in TOU metering without actually participating in the TOU Program so as to allow customers to educate themselves about TOU rates without exposing themselves to economic risk.[82] SunPower also voices concern over the "free-rider" issue (those whose natural energy consumption patterns already coincide with TOU time periods), and how this may inequitably shift costs without producing any corresponding switch in customer behavior.[83] Similarly, SunPower believes that the HECO Companies' proposed on-peak period is too long and should be

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[79]REACH Comments at 3-4.

[80]REACH Comments at 4.

[81]REACH Comments at 7.

[82]SunPower Comments at 1.

[83]See SunPower Comments at 1-2.

reduced so as to allow for load shifting in the evening and to avoid customer confusion with other TOU periods.[84] SunPower also recommends setting different TOU periods for each island to reflect their individual load profiles and needs.[85] Finally, SunPower requests clarification regarding the applicability of the proposed Interim TOU Program to non-solar and non-EV customers, NEM customers, prospective Grid-Supply customers, and customers who seek to charge their energy storage systems from the grid, rather than from solar.[86]

III.

DISCUSSION

TOU rates are designed to provide price signals that are responsive to underlying, time-differentiated system costs and values, and to promote customer usage and delivery behavior that is beneficial to the customer and the overall system. In addition, TOU rates are used to promote equity, customer choice, environmental sustainability, and other public policy objectives.

One primary objective of TOU rates is to encourage more efficient use of the electricity system and enable more

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[84]SunPower Comments at 2.

[85]SunPower Comments at 2.

[86]SunPower Comments at 2.

cost-effective integration of renewable energy. As greater quantities of renewable energy, particularly from solar PV generation, have been added to Hawaii's electrical grids, the system load profile has been changing, resulting in changing operational needs and associated costs. The HECO Companies' proposed Interim TOU Program includes rates intended to shift customer load from the system's highest-cost, peak demand period to the mid-day period, when relatively inexpensive solar and other renewable resources are abundant.

In addition, TOU rates that encourage customers to shift supply and demand to meet grid needs may increase system and circuit hosting capacity for additional DER. As such, a well-designed TOU rate structure will complement the interim CGS and CSS DER market options established in Phase I of this proceeding.

Implementing a new TOU rate design is a complex undertaking, and the commission acknowledges the myriad challenges, including the potential for unintended or undesirable outcomes that result from re-allocating costs otherwise collected through bundled, flat energy rates.[87] Given these complexities,

[87]Some of the controversial issues identified in the HECO Companies' and Parties' comments include, but are not limited to: (1) the potential for creating unintended or perverse outcomes due to price distortions or cross-subsidization; (2) whether to include export compensation rates for participants that own rooftop PV systems, versus only consumption rates; (3) the size or

the commission takes this opportunity to emphasize that at this stage in this proceeding, the focus of the Interim TOU Program is on influencing customer behavior through electricity *consumption* rates. While influencing customer-sited energy supply is of significant interest to the commission (through, for example, time-of-delivery export rates), these are more complex issues that should be addressed in Phase II.

In sum, the commission finds that the risks identified by the Parties are more than offset by the potential benefits of offering a temporary, limited, opt-in TOU tariff to residential customers now. Such benefits, which would accrue to all customers, include: reducing peak demand (and associated peak-demand related costs); inducing greater customer demand during the mid-day period to increase use of cost-effective renewable resources; providing customers with additional choices to manage their consumption for their benefit and the benefit of the overall grid; and providing information and guidance to inform new TOU, DER, and demand response ("DR") programs to be developed as part of Phase II and in related parallel proceedings.

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degree of the spread between the on-peak and other periods; (4) which customer classes are eligible to participate, and whether to allow NEM customers to participate; (5) the timing and duration of the on-peak period; and (6) whether interim TOU rates can be offered prior to more comprehensive analysis provided from a cost-of-service study or experimental pilot program.

After review of the Proposal, the HECO Companies' responses to IRs, and the Parties' responsive comments, the commission finds that an interim, opt-in TOU program for each of the HECO Companies' island systems is in the public interest, and will represent progress towards achieving the State's energy goals. The commission details the structure of this Interim TOU Program below. A more comprehensive analysis and design, potentially including consideration of time-varying export compensation structures, will be incorporated into Phase II of this proceeding.

A.

Interim TOU Program Features

1.

Summary

The Interim TOU Program shall consist of three time periods that are uniform to all participants, open to all residential customers up to a specified program participation limit, and shall last for two years, or until improved time-varying rate options or other measures become available. The time periods and corresponding energy consumption rates, along with the methodology for adjusting those rates on a monthly basis to reflect existing applicable surcharges and adjustment mechanisms, shall be those provided in the HECO Companies' Responses to PUC-HECO-IR-18 and PUC-HECO-IR-20-b-ii, as set forth below.[88]

The main structural adjustments to the HECO Companies' Proposal are summarized as follows:

1. A shortened "peak" period from eight hours (4pm-12am), to five hours (5pm-up to 10pm), and an expanded mid-day period (9am-up to 5pm), which provides a better representation of the current system peak period and allows the residential TOU rate design to align with an effective electric vehicle TOU rate design;

2. A re-allocation of a portion of fixed generation, transmission, and distribution fixed costs to the off-peak period to adjust for the increase in price differentials caused by the shortened peak period;

3. A removal of proposed restrictions on eligibility to allow all residential customers to opt-in to the Interim TOU Program, up to a Program cap of 5,000 customers.

4. Alignment of the TOU rate structure with respect to periods and rates across time-varying tariffs available for residential customers to present a simplified, manageable approach to understanding and TOU rates.

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[88]See HECO Companies' Responses to HECO-PUC-IR-18 and HECO-PUC-IR-20, Attachment 2, at 1 of 6.

The following table shows the interim TOU rate design, using surcharges as of April 2016 as an example:[89]

Interim TOU Rate Design

"Re-allocated Cost Method" *(cents/kWh)*			
	Mid-Day 9am- up to 5pm	On-Peak 5pm- up to 10pm	Off-Peak 10pm-up to 9am
HECO	14.82	34.88	21.28
HELCO	10.36	47.00	32.10
MAUI	13.46	37.54	31.10
LANAI	23.99	34.14	30.12
MOLOKAI	20.70	34.99	30.57

The commission emphasizes that these interim TOU rates are intended to be technology-agnostic, and are not designed to incent any particular technology or product offering. First and foremost, the rate design is targeted to shift customers' energy usage behavior to better align electricity demand with system costs and needs. It is not specifically intended to support battery storage or any other DER. However, the commission understands the

[89]The commission clarifies that this table merely illustrates the Interim TOU Program rate design methodology, and not the amounts that will be actually reflected in a residential TOU customer's bill. The proposed Interim TOU Program's rate design includes the same customer charges that apply to the existing Schedule TOU-R, which fluctuate on a monthly basis. See HECO Companies TOU Tariff Proposal at 5. HECO Companies' Response to PUC-HECO-IR-20-b-ii, from which this table is drawn, reflects the surcharges that were in effect as of April 2016. See HECO Companies Response to PUC-HECO-IR-20-b-ii, at 1 of 6. When the HECO Companies file their respective tariffs for the Interim TOU Program, the tariffs should include a summary of the effective rates utilizing updated applicable surcharges and adjustments.

potential benefits of investments in grid-beneficial systems and technologies, and views this as a first step in what will become a suite of available DER offerings. The commission encourages continuing this discussion in Phase II.

2.

Duration

The commission concurs with the Consumer Advocate's recommendation that the Interim TOU Program should be transitional and last for no more than two years, with no grandfathering.[90] As the Interim TOU Program progresses, the commission may consider whether or not to extend this period beyond two years. Similarly, the commission agrees with the Consumer Advocate that the interim TOU tariff, and any promotional or informational material developed by the HECO Companies, shall clearly state the transitional nature of the Interim TOU Program.[91]

3.

Time Periods

The Interim TOU Program will feature three distinct time periods: a mid-day period from 9am-up to 5pm, an on-peak period

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[90]See CA Comments at 3, 15-16.

[91]See CA Comments at 3.

from 5pm-up to 10pm, and an off-peak period from 10pm-up to 9am. These TOU time periods shall be uniform for all residential customers who participate in the Interim TOU Program, including those who install customer-sited DER, such as solar PV or electric vehicles. A broad consensus of stakeholders recommended that the TOU time periods be uniform to avoid customer confusion and to make administration and management of the program easier and less costly for the HECO Companies.[92] The commission notes that as the Interim TOU Program will be available only to residential customers, uniform time periods are appropriate at this time; and furthermore, the Program's interim nature anticipates change as necessary and appropriate to improve design or accommodate additional classes of customers.[93]

Regarding the 5pm-up to 10pm on-peak period, many Parties agreed that the on-peak time period of eight hours from 4pm-12am included in the HECO Companies' Proposal should be

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[92]See e.g., CA Comments at 21; CA Reply at 7; DBEDT Comments at 7; Joint Parties Reply at 5; HPVC Comments at 3; and SunPower Comments at 2.

[93]Designing TOU rates for commercial customers is more complex, and may have the potential for unintended consequences. One reason for this is that many commercial customers have relatively greater electricity consumption during the mid-day period, and have comparably lower consumption during the system peak. As a result, many commercial customers could substantially benefit from a TOU rate design without necessarily needing to change consumption patterns (i.e., be able to free-ride on the TOU rate).

shortened and shifted to provide a more distinct timing and price signal that would better align with the actual observed system peak.[94]

In short, at this time, the Interim TOU Program, with a shortened and shifted on-peak period relative to the Proposal, more accurately reflects system costs than the Proposal and thus sends a more appropriate price signal to participants, with system benefits accruing to all customers.

The Joint Parties recommend adopting the 3pm-9pm on-peak period from the HECO Companies' proposed EV-TOU rate as the uniform residential on-peak period. The commission deems this on-peak period unsupported at this time. While the commission understands the potential benefit that an earlier on-peak period would provide for some customers and the overall grid,[95] based on the available data, the Joint Parties' proposed on-peak period is not in alignment with the actual system peak. Moreover, the commission deems a uniform rate design across all customer classes and applicable to all technology types to be beneficial.[96]

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[94]See CA Reply at 6-7, HPVC Comments at 3, and Joint Parties Comments at 8-14.

[95]For example, by incentivizing west-facing PV or battery storage installations.

[96]As highlighted by the Consumer Advocate and DBEDT in their comments, until the Parties develop a more complete understanding of current system costs in Phase II of the DER proceeding, some initial caution is warranted in TOU rate design. As such,

In consideration of the foregoing, the commission restates that the Interim TOU Program on-peak period shall be five hours, from 5pm-up to 10pm.

The Consumer Advocate expresses concerns with shortening and shifting the on-peak period because it "may further increase the distortion between prices and properly allocated costs and exacerbate concerns regarding subsidization, particularly if all fixed costs continue to be allocated to peak rates."[97] (emphasis added). In addition, the Consumer Advocate has concerns that some customers would benefit financially without needing to adjust their usage behavior, and provided an analysis of the potential impact of a TOU rate design to demonstrate this effect.[98]

The commission acknowledges the potential for unintended consequences as well as the possibility of free-riders who are able to reduce their monthly bills without actually changing energy

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this interim TOU rate design is made available to all residential customers - those with and without solar PV and those with and without EVs. This will improve the attractiveness of the interim TOU rate for EV owners who may be inclined to charge their vehicles during typical working hours, and is consistent with the intent of the Interim TOU Program to reduce peak demand and increase load when solar generation is abundant. In addition, this design reduces the need for multiple overlapping TOU rate structures, and provides a clear and easy-to-understand price signal that encourages demand behavior that benefits the overall grid.

[97]CA Reply at 6, 7.

[98]CA Comments at 10. This was based on consumption patterns shown in data from the HECO Companies' Smart Meter Pilot.

consumption behavior in response to the TOU rate. However, as noted above, the rate design adopted herein is intended to benefit all customers. Moreover, the risk of undue cross-subsidization is mitigated by the optional, temporary, and limited characteristics of the program design. Future TOU rate designs should be based on lessons learned from observed behavior and should address free-ridership or other unintended consequences, should they pose a significant impact to the effectiveness of the Interim TOU Program rate design.

In addition, the commission acknowledges the concern regarding a relatively high volumetric rate that results from shortening the on-peak period, where fixed costs are allocated over fewer hours. To address this concern, the Interim TOU Program adjusts the on-peak rate by shifting a portion of the fixed costs into the off-peak period,[99] based on a sales-weighted ratio of the class average on-peak consumption to off-peak consumption. This results in an on-peak rate closer to the HECO Companies' original Proposal, despite the shorter period, and attenuates the sharp price differential. The Interim TOU Program on-peak rate therefore is intended to address concerns regarding excessive on-peak rates to participants, while also providing a more

[99]As noted, supra, in PUC-HECO-IR-18, the commission asked the HECO Companies to re-distribute system fixed costs between the on-peak and off-peak periods.

pronounced incentive to shift load to the mid-day period, where the rate shall continue to be based on marginal generation costs.

4.

Customer Eligibility

The commission notes that the issue of restricting certain customers from participating in the Interim TOU Program has been the source of disagreement among the Parties. In particular, the Consumer Advocate maintains that enrollment in the Interim TOU Program should be limited to NEM and CGS participants.[100] Conversely, the Joint Parties appear primarily concerned that NEM participants be permitted to enroll in the Program (but not necessarily that they be the only participants in the Program).[101] To that end, the Joint Parties also urge that the commission remove any condition that requires NEM participants who modify their NEM system to forfeit their participation in the NEM program, as such a requirement could discourage NEM participants from enrolling in the Interim TOU Program.[102]

After reviewing the evidence in the record and the positions set forth by the Parties, the commission determines

[100] See CA Comments at 2 and 13-15.

[101] See Joint Parties Comments at 15.

[102] See Joint Parties Comments at 15 (referring to the condition specified in Decision and Order No. 33258 at 164-65).

that all residential customers shall be eligible to opt-in to the Interim TOU Program. Eligible residential customers include: (1) Schedule-R customers without rooftop PV; (2) existing residential NEM, CGS, CSS, SIA, and FIT participants; and (3) residential customers with electric vehicles (while there shall be no separate interim TOU option for EV owners, the Interim TOU Program accommodates customers with and without EVs).

NEM, CGS, and CSS customers shall be given the opportunity to opt-in to the Interim TOU Program while maintaining their status in such programs. If a NEM or CGS customer opts in, the TOU rate shall affect consumption of energy, but, as discussed infra, the TOU rate shall not govern export compensation.

Participation in the Interim TOU Program will not affect the provisions and requirements of other applicable opt-in tariffs, such as the NEM tariff or the CGS tariff. NEM customers who choose to opt-in to the Interim TOU Program shall be billed for electricity consumption in a given TOU period in a given month based on the net amount of electricity that is consumed by the NEM customer; that is, the monthly bill shall be based on the difference between the electricity supplied to the NEM customer by the electric grid and the electricity generated by the eligible

NEM customer and delivered to the electric grid, in a given TOU period over a monthly billing period.[103]

Likewise, CGS customers who opt-in to the Interim TOU Program shall be billed for electricity supplied to the customer by the electric grid pursuant to the Interim TOU Program, and shall be credited in a given month for electricity delivered to the electric grid at the applicable CGS rate, consistent with the CGS tariff.

Participants in the existing residential Schedule TOU-R program shall be permitted to stay under Schedule TOU-R; however, no new applicants shall be permitted to enroll in Schedule TOU-R from the date of this Order (i.e., enrollment in Schedule TOU-R is closed). All new residential TOU applicants will only have the option of enrolling in the Interim TOU Program. Participants who are under the existing Schedule TOU-R can opt to switch from the Schedule TOU-R to the Interim TOU Program at any time; however, once a participant has moved to the Interim TOU Program, he or she will not be able to switch back to Schedule TOU-R.[104] Additionally, as discussed, infra, if a participant opts out of the Interim TOU Program, he or she will not be able to re-enroll in the

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[103]See Haw. Rev. Stat. §§ 269-101, 269-102, and 269-105.

[104]As noted, infra, similar provisions will be made for current EV-TOU Schedule participants.

Interim TOU Program. This issue, as well as related issues (e.g., whether Schedule TOU-R or other TOU tariffs should be closed), will be further explored during Phase II.

While the commission recognizes the concerns raised by the Consumer Advocate, the commission finds that at this time the potential harms are outweighed by the potential benefits of allowing open participation in the Interim TOU Program. As noted by nearly all the Parties, more information is needed to fully assess the strengths and weaknesses of the Interim TOU Program and the commission views this *Interim* TOU Program as part of an on-going process to develop customer options which will continue into Phase II. Furthermore, the relatively short duration of the Interim TOU Program (two years) acts to mitigate any substantial harms or inequities that may arise under this Interim TOU Program. Again, the commission emphasizes that this interim TOU program is finite in nature and none of its characteristics are guaranteed in any long-term DER options, which will emerge during Phase II.

5.

Participation Cap

The Interim TOU Program shall have a cap of 5,000 residential participants, excluding TOU-R participants and residential EV-TOU Schedule participants who are on those schedules as of the date of this Order, who may opt-in to the

Interim TOU Program at any time. The commission agrees with HPVC on the advisability of instituting a program cap[105]; however, the commission finds that a cap based on megawatt ("MW") capacity is problematic given that not all customers who may enroll in the program will have a "capacity" to apply to the program participation cap. Interested customers who apply to enroll in the Interim TOU Program after the 5,000 residential participant cap is reached shall be organized into a queue based on the chronological date and time of their application. Customers in the queue waiting to enroll in the Interim TOU Program shall be subject to their existing rate structure until admitted into the Interim TOU Program. However, as noted above, participants who are under the TOU-R or residential EV-TOU Schedules as of the date of this Order are not subject to the 5,000 participant cap and may opt-in to the Interim TOU Program at any time.

Participants shall be able to opt-out of the Interim TOU Program and return to the applicable residential schedule at any time with no penalty; however, once a participant has opted out, he or she will not be able to opt-in to the Interim TOU Program again. Whether or not a participant has opted in or out of the Interim TOU Program will not affect their eligibility to participate in any successor TOU offerings resulting from Phase II

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[105] See HPVC Comments at 4.

or other related proceedings. The withdrawal of any participant(s) from the Interim TOU Program shall "free up" cap space, such that applicants waiting in the queue shall be admitted until the cap is reached again. The commission may modify the program participation cap at any time, if determined to be reasonable and in the public interest.

6.

Bill Protection

DBEDT identifies bill protection as an important element of a successful TOU roll-out. It states that, "[b]ill protection allows customers to move to a TOU structure with the confidence that their bill will be no higher than what they would have been billed on the traditional tiered structure. Once transitioned to a TOU structure, customers have the opportunity to learn how to better manage their usage and potentially adopt technologies to assist them in further lowering their bill."[106] The commission agrees that some form of bill protection will remove potential barriers to customer adoption.

The HECO Companies shall incorporate bill protection into the Interim TOU Program tariff, in collaboration with the Parties. Among other bill protection options, the HECO Companies

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[106]See DBEDT Comments at 6, 7.

shall offer a "shadow bill" option for a six-month duration to any customer that opts-in to the Interim TOU Program. This "shadow bill" option will provide participants with their bill under the Interim TOU Program rates as well as their bill under their pre-existing tariff rate, so that participants may compare their bills to better manage their energy consumption to realize savings. However, the commission declines to adopt DBEDT's additional suggestion of "capping" an Interim TOU Program participant's bill at his or her bill under a "traditional tiered structure," as this would remove the primary incentive for customers to change electricity consumption patterns to benefit the overall system Instead, an Interim TOU Program participant will be charged according to the applicable Interim TOU Program rates, and may use the shadow bill to help identify ways to adjust electricity consumption patterns to reduce energy costs and benefit the overall electricity system.

In addition to bill protection, the Consumer Advocate recommends that a "bill estimator" be developed to allow prospective customers to estimate the impact of switching over to the Interim TOU Program.[107] The commission agrees that a bill estimator is a desirable feature of a TOU program, but recognizes that at this time, it would be difficult to provide accurate bill

[107]See CA Reply at 9.

estimates with current metering technology. The details of implementing a bill estimator will be explored in Phase II, and the commission urges the HECO Companies to begin investigating this issue to identify potential challenges.

7.

Metering Costs

The Consumer Advocate "strongly recommends that any participating customer that requires a TOU meter should either bear associated costs (e.g., TOU meter costs, costs of meter reading, back office costs, etc.) or that these costs not be allowed to be recovered from non-participants (e.g., either vendors or utility is responsible for these costs)."[108]

The commission agrees that it is reasonable to charge participants for associated costs of their participation in the Interim TOU Program, and that the Interim TOU Program should include measures that fairly cover associated costs of participation in the Program without unduly affecting non-participants. That being said, the commission observes that, at this time, there is insufficient information to calculate what a Program participant's cost is or should be. Accordingly, while the commission declines to establish a metering cost at this

[108]See CA Comments at 17.

time, it instructs the HECO Companies to begin collecting and organizing the necessary information to develop appropriate metering costs for successor TOU tariffs. This issue will be discussed during Phase II for future TOU tariff options.

8.

Reporting Requirements

The HECO Companies shall furnish a yearly status report to the commission, beginning no later than January 31, 2018. The status report shall include, at a minimum, metrics related to customer adoption, drop outs, and usage patterns, and identify any changes that occur to customer usage as a result of the change in rates. In addition, the status report should include data on customer demographics; the usage or installation of any enabling technologies; bill, energy and load impacts; customer satisfaction and input; and a cost-benefit analysis. Finally, in advance of each yearly status report, the HECO Companies shall refresh the underlying marginal cost data and resulting TOU rates for the Interim TOU Program to reflect updated estimates of marginal costs for the next calendar year, consistent with the TOU rate design approved herein.[109] The HECO Companies shall also provide quarterly

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[109]See e.g., Order No. 33258 at 152.

updates to the commission of enrollment numbers with a detailed tally of enrollments and drop-outs by customer type.

B.

The EV-TOU Tariff

As noted, supra, the commission finds that, at this time, TOU periods and rates should be aligned across all residential time-varying tariffs to the greatest extent possible. Accordingly, the HECO Companies' Interim TOU tariff shall be available to all residential customers, including those with electric vehicles. Participants who are under the current EV-TOU Schedules may remain under their respective current EV-TOU Schedule; however, no new applicants may enroll in any of the existing EV-TOU Schedules.[110] Any new residential EV participant who wishes to participate in a time-varying tariff must enroll in the Interim TOU Program. Participants in the current EV-TOU Schedules may opt to switch to the Interim TOU Program at any time; however, once a participant opts-in to the

[110]As noted, supra, this Order is limited in scope to *residential* time-varying tariffs, and does not affect existing tariffs related to other customer classes (i.e., non-residential). In the event that a non-residential EV-TOU Schedule is approved during the Interim TOU Program period, this Order shall not preclude an otherwise eligible applicant from enrolling in said non-residential EV-TOU Schedule, provided that all other applicable tariff requirements are satisfied.

Interim TOU Program, the customer will not be allowed to re-enroll in any of the current EV-TOU Schedules. Similarly, if an EV participant chooses to leave the Interim TOU Program, he or she will not be allowed to re-enroll in the Interim TOU Program.

This will provide a simplified approach to customers who are contemplating adopting TOU rates, as well as mitigate confusion among existing TOU participants. Additionally, consolidating all new residential TOU participants under a single time and rate structure should contribute to providing a more meaningful picture of TOU patterns and behavior, which, in turn, will help guide policy discussions during Phase II. Finally, after the end of the two-year Program duration, the TOU tariff structure may be re-visited.

C.

TOU Tariffs for Other Customer Classes

At this time, the Interim TOU Program approved in this Order applies to residential customers only. It is the commission's ultimate goal to establish TOU tariffs for all customer classes; however, other customer classes may have different energy consumption patterns compared to residential customers, such that the Interim TOU Program structure may result in an unfair distribution of costs and benefits among customer classes.[111] Developing TOU rate designs for other customer classes will require further analysis and is an issue better-suited for Phase II of this proceeding.

IV.

FINDINGS AND CONCLUSIONS

1. The commission finds and concludes that the HECO Companies' proposed Interim TOU Program is reasonable and in the public interest, subject to certain modifications, as discussed herein.

2. The Interim TOU Program time periods, energy consumption rates, and methodology for incorporating monthly surcharge adjustments shall be as set forth in the HECO Companies' Response to PUC-HECO-IR-18 and -20-b-ii, and as discussed herein.

3. All current, existing Schedule TOU-R participants may opt into the Interim TOU Program at any time. The HECO Companies shall notify all Schedule TOU-R participant of this option. However, if a Schedule TOU-R participant opts into

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[111]For example, many commercial customers consume most of their energy needs during the mid-day period, which could allow them to benefit from the interim TOU rates without requiring any behavioral change.

the Interim TOU Program, he or she may not later re-enroll in Schedule TOU-R.

4. Enrollment into the existing Schedule TOU-R tariff shall be closed as of the date of this Order. Any new residential applicants who seek to participate in TOU rates must apply under the Interim TOU Program.

5. The Interim TOU Program shall be open to all residential customers as a voluntary, "opt-in" program. Customers who are also participants in the NEM or CGS tariffs may participate in the Program and receive TOU rates for their energy consumption. NEM customers who opt-in to the Program shall be billed for electricity consumption in a given TOU period in a given month based on the net amount of electricity that is consumed by the NEM customer in each respective TOU period. CGS customers who opt-in to the Program shall be billed for electricity consumption pursuant to the Interim TOU Program, and shall be credited in a given month for electricity delivered to the electric grid in accordance with the CGS tariff.

6. The Interim TOU Program shall also be open to all residential customers with EVs as a voluntary "opt in" program. Participants in the EV-TOU Schedules as of the date of this Order may opt in to the Interim TOU Program at any time; however, if a current EV-TOU Schedule participant opts into the Interim TOU

Program, he or she may not later re-enroll into one of the current EV-TOU Schedules.

7. Enrollment into the existing EV-TOU Schedule tariffs shall be closed as of the date of this Order. Any new residential applicants who seek to participate in EV rates must apply under the Interim TOU Program.

8. The Interim TOU Program shall be capped at 5,000 participants, on a first-come, first-served basis. All subsequent applicants shall be placed in a queue, and may be enrolled in the Program in the event that any enrolled participant elects to withdraw from the Program. This cap shall not apply to TOU-R and EV-TOU Schedule participants as of the date of this Order, who may elect to opt in to the Interim TOU Program at any time.

9. Participants in the Interim TOU Program may opt out of the Program at any time and return to the applicable residential rate schedule without any penalty. Once a participant has opted out of the Program, they shall no longer be eligible to opt-in to the Program again. Additionally, as noted above, participants in the current Schedule TOU-R and/or EV-TOU Schedules who opt-in to the Interim TOU Program will not be permitted to re-enroll back into those respective schedules. However, this will not affect any customer's right to enroll in any successive TOU offerings that may result from Phase II.

10. The Interim TOU Program will have a finite duration of two years. The Program will automatically expire at the end of two years, unless affirmatively extended by the commission. Additionally, the commission retains the authority to modify the Program during its two-year life span, as circumstances warrant.

11. The Interim TOU Program tariff shall feature bill protection elements, such as a "shadow bill," which will offer participants the opportunity to compare their consumption patterns under the Interim TOU Program and their former rate schedule.

12. The HECO Companies shall annually file a yearly status report with the commission, beginning no later than January 31, 2018, which:

(A) Provides metrics related to customer adoption, drop-outs, and usage pattern;

(B) Identifies any changes that occur to customer usage as a result of the change in rates;

(C) Includes data on customer demographics, usage or installation of any enabling technologies, bill, energy, and load impacts, and customer satisfaction and input; and

(D) A cost benefit analysis for the Program.

13. In advance of each annual report, the HECO Companies shall refresh the underlying marginal cost data and resulting TOU rates for the Program, using updated estimates

of marginal costs for the next calendar year, consistent with the TOU rate design approved herein.

14. In addition to the annual filing, the HECO Companies shall also provide quarterly updates to the commission and Parties regarding enrollment numbers, including a detailed tally of enrollments and drop-outs by customer type.

15. Each of the HECO Companies shall file, in this docket, respective tariffs for an Interim TOU Program that complies with this Order within thirty days of the date of issuance of this Order. Said tariffs will take effect upon filing.

16. During Phase II, all aspects of the Interim TOU Program will be open for consideration and possible modification.

17. The HECO Companies' respective Interim TOU Program tariffs may be suspended or modified at any time by the commission on its own motion or for good cause shown.

V.

ORDERS

THE COMMISSION ORDERS:

1. Each of the HECO Companies shall file a respective tariff for an Interim TOU Program consistent with this Order within thirty days of the date of issuance of this Order. Said tariffs shall be filed in this docket and will take effect upon filing.

2. The HECO Companies shall file an annual report with the commission no later than January 31 of each year, with the first report due by January 31, 2018.

3. The HECO Companies shall file quarterly updates with the commission as described herein.

DONE at Honolulu, Hawaii SEP 16 2016.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By Randall Y. Iwase
Randall Y. Iwase, Chair

By Lorraine H. Akiba
Lorraine H. Akiba, Commissioner

By Thomas C Gorak
Thomas C. Gorak, Commissioner

APPROVED AS TO FORM:

Mark Kaetsu
Mark Kaetsu
Commission Counsel

2014-0192.ljk

CERTIFICATE OF SERVICE

The foregoing order was served on the date of filing by mail, postage prepaid, and properly addressed to the following parties:

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